

FILE 'REGISTRY' ENTERED AT 12:26:22 ON 30 SEP 2003

STRUCTURE FILE UPDATES: 28 SEP 2003 HIGHEST RN 594810-89-6

DICTIONARY FILE UPDATES: 28 SEP 2003 HIGHEST RN 594810-89-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

L1 E GCTGATGAGACAGGTATTAAGC/SQEP
0 S GCTGATGAGACAGGTATTAAGC/SQSP
E ATCAAATTCTCTGACATTGC/SQEP
L2 0 S ATCAAATTCTCTGACATTGC/SQSP
E GACTCAGATACTTATATCTA/SQEP
L3 0 S GACTCAGATACTTATATCTA/SQSP
E TTTTACGTGTTCCCCA/SQEP
L4 0 S TTTTACGTGTTCCCCA/SQSP

FILE 'CA' ENTERED AT 12:29:06 ON 30 SEP 2003

FILE COVERS 1907 - 25 Sep 2003 VOL 139 ISS 14

FILE LAST UPDATED: 25 Sep 2003 (20030925/ED)

L5 260 S HYALURON?(W) (SYNTHASE OR SYNTHETASE)
L6 97969 S PLASMID
L7 14 S L5 AND L6
L8 295645 S CLON?
L9 72 S L5 AND L8
L10 62 S L9 NOT L7

L7 ANSWER 1 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Recombinant expression of bacterial hyaluronan synthase operon genes in *Bacillus* and hyaluronic acid production PY 2003 2003

L7 ANSWER 2 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Use of mouse hyaluronan synthase isoenzyme genes HAS1, HAS2 and HAS3 and hyaluronic acid crosslinked conjugates for treatment of dry eye syndrome PY 2003

L7 ANSWER 3 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Construction of a stable non-mucoid deletion mutant of the *Streptococcus equi* Pinnacle vaccine strain PY 2002

L7 ANSWER 4 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Gene therapy for dry eye syndrome PY 2003

L7 ANSWER 5 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Polymer grafting with polysaccharide synthases for coating biomaterial surfaces PY 2000 2000 2000 2001 2002 2003

L7 ANSWER 6 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronate synthetase 1 gene-targeting vectors for regulating hyaluronate synthetase activity by mutation induced by homologous recombination PY 2000

L7 ANSWER 7 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Sequence and organization of pXO1, the large *Bacillus anthracis* plasmid harboring the anthrax toxin genes PY 1999

L7 ANSWER 8 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Nucleic acid encoding hyaluronan synthase from *Pasteurella multocida* PY 1999 1999 1999 2001 2001 2002 2003

L7 ANSWER 9 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Role of putative virulence factors of *Streptococcus pyogenes* in mouse models of long-term throat colonization and pneumonia PY 1997

L7 ANSWER 10 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Yeast-derived recombinant DG42 protein of *Xenopus* can synthesize hyaluronan in vitro PY 1996

L7 ANSWER 11 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Expression cloning and molecular characterization of HAS protein, a eukaryotic hyaluronan synthase PY 1996

L7 ANSWER 12 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning of the gene encoding RecF, a DNA repair enzyme, from *Streptococcus pyogenes* PY 1995

L7 ANSWER 13 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Immunochemical Confirmation of the Primary Structure of Streptococcal Hyaluronan Synthase and Synthesis of High Molecular Weight Product by the Recombinant Enzyme PY 1994

L7 ANSWER 14 OF 14 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning, identification, and sequence of the hyaluronan synthase gene from group A *Streptococcus pyogenes* PY 1993

L7 ANSWER 14 OF 14 CA COPYRIGHT 2003 ACS on STN
AN 119:242364 CA
TI Molecular cloning, identification, and sequence of the hyaluronan synthase gene from group A *Streptococcus pyogenes*
AU DeAngelis, Paul L.; Papaconstantinou, John; Weigel, Paul H.
CS Dep. Hum. Biol. Chem. Genet., Univ. Texas, Galveston, TX, 77555-0647, USA
SO Journal of Biological Chemistry (1993), 268(26), 19181-4 CODEN: JBCHA3;
ISSN: 0021-9258 DT Journal LA English
CC 3-3 (Biochemical Genetics) Section cross-reference(s): 7, 10
AB The hyaluronan (HA) synthase of Group A *Streptococci* has been identified by transposon mutagenesis and deletion anal. The genes for the HA synthase and a recently identified UDP-Glc dehydrogenase (B.A. Dougherty and I. van de Rijn, 1993) reside on a contiguous stretch of 3.2-kilobase pair DNA that can direct HA biosynthesis in *Enterococcus faecalis* and *Escherichia coli* as well as mutant *Streptococcus* (P.L. DeAngelis, et al., 1993). The synthase contains 395 residues (calcd. Mr = 45,063) and migrates on SDS-PAGE with a mol. mass of .apprx.42 kDa. *E. coli* K5, which synthesizes UDP-glucuronic acid for prodn. of its endogenous capsular polysaccharide, can make HA if it contains a plasmid encoding the intact 42-kDa protein. *E. coli* SURE or .chi.1448 cells contg. the same construct, however, cannot produce HA since these strains cannot make both required sugar nucleotide precursors. The HA synthase is predicted to be an integral membrane protein with four membrane-assocd. helices, which is consistent with the location of the enzyme activity in *Streptococci*. There is significant homol. between the HA synthase and the *Rhizobium nodC* gene product, an enzyme that synthesizes chitin-like oligomers. This is the first description at the mol. level of an enzyme shown to synthesize a glycosaminoglycan.

ST hyaluronan synthase gene cloning sequence *Streptococcus*
IT Deoxyribonucleic acid sequences Molecular cloning (of hyaluronan synthase gene hasA, of *Streptococcus pyogenes*)
IT Protein sequences (of hyaluronan synthase, of *Streptococcus pyogenes*)
IT Genetic mapping (restriction, of genes hasA and hasB, of *Streptococcus pyogenes*)
IT Gene, microbial RL: BIOL (Biological study) (hasB, for UDP-GLC dehydrogenase, of *Streptococcus pyogenes*, cloning and sequence and restriction mapping of)
IT Gene, microbial RL: BIOL (Biological study) (hasA, for hyaluronan synthase, of *Streptococcus pyogenes*, cloning and sequence and restriction mapping of)
IT *Streptococcus pyogenes* (group A, hyaluronan synthase gene hasA, of, cloning and sequence and restriction mapping of)
IT 150227-34-2 RL: PRP (Properties) (amino acid sequence of)
IT 9028-26-6 RL: PRP (Properties) (gene hasB for, of *Streptococcus pyogenes*, identification and sequence of)
IT 151151-14-3, GenBank L20853 RL: PRP (Properties) (nucleotide sequence and cloning and restriction mapping of)

L10 ANSWER 1 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Nucleotide polymorphisms associated with osteoarthritis and their use in diagnosis and drug development PY 2003

L10 ANSWER 2 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase mutants with altered enzymic activities PY 2003 2003

L10 ANSWER 3 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Separate regulation of hyaluronan in the kidney cortex and medulla PY 2002

L10 ANSWER 4 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Recombinant expression of bacterial hyaluronan synthase genes in *Bacillus* and hyaluronic acid production PY 2003 2002 2003 2003 2003

L10 ANSWER 5 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Enzymic synthesis of glycosaminoglycan block copolymers using enzyme bioreactors and use of the polymers in biocompatible coatings PY 2003 2003

L10 ANSWER 6 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Induction of hyaluronan synthase 2 by human chorionic gonadotropin in mural granulosa cells of equine preovulatory follicles PY 2002

L10 ANSWER 48 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Cloning of cDNA for human hyaluronate synthetase PY 1997 1999 2000

L10 ANSWER 49 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Cloning of cDNA for novel hyaluronate synthetase from mice PY 1997 1999

L10 ANSWER 50 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning and characterization of a cDNA encoding the third putative mammalian hyaluronan synthase PY 1997

L10 ANSWER 51 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning and characterization of a putative mouse hyaluronan synthase PY 1996

L10 ANSWER 52 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Functional cloning of the cDNA for a human hyaluronan synthase PY 1996

L10 ANSWER 53 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular identification of a putative human hyaluronan synthase PY 1996

L10 ANSWER 54 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning of human hyaluronan synthase PY 1996

L10 ANSWER 55 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Characterization of the recombinant hyaluronic acid synthase from *Streptococcus pyogenes* PY 1995

L10 ANSWER 56 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Cells expressing the DG42 gene from early *Xenopus* embryos synthesize hyaluronan PY 1996

L10 ANSWER 57 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Cloning and expression of gene for hyaluronic acid synthase of *Streptococcus* PY 1994

L10 ANSWER 58 OF 62 CA COPYRIGHT 2003 ACS on STN
TI The *Streptococcus pyogenes* hyaluronan synthase: sequence comparison and conservation among various group A strains PY 1994

L10 ANSWER 59 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Effects on virulence of mutations in a locus essential for hyaluronic acid capsule expression in group A streptococci PY 1994

L10 ANSWER 60 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronate synthase: Cloning and sequencing of the gene from *Streptococcus* sp PY 1993

L10 ANSWER 61 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular characterization of hasB from an operon required for hyaluronic acid synthesis in group A streptococci. Demonstration of UDP-glucose dehydrogenase activity PY 1993

L10 ANSWER 62 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Cloning of DNA encoding hyaluronate synthase PY 1991 1991 1991 2001

L10 ANSWER 58 OF 62 CA COPYRIGHT 2003 ACS on STN
AN 120:239077 CA
TI The *Streptococcus pyogenes* hyaluronan synthase: sequence comparison and conservation among various group A strains
AU DeAngelis, Paul L.; Yang, Ning; Weigel, Paul H.
CS Dep. Hum. Biol. Chem. Genet., Univ. Texas, Galveston, TX, 77555-0647, USA
SO Biochemical and Biophysical Research Communications (1994), 199(1), 1-10
CODEN: BBRC9; ISSN: 0006-291X
DT Journal
LA English

L10 ANSWER 59 OF 62 CA COPYRIGHT 2003 ACS on STN
AN 120:158671 CA
TI Effects on virulence of mutations in a locus essential for hyaluronic acid capsule expression in group A streptococci
AU Wessels, Michael R.; Goldberg, Joanna B.; Moses, Allon E.; DiCesare, Thomas J.
CS Channing Lab., Brigham and Women's Hosp., Boston, MA, 02115, USA
SO Infection and Immunity (1994), 62(2), 433-41 CODEN: INFIBR; ISSN: 0019-9567
DT Journal LA English

AB Mucoid or highly encapsulated strains of group A streptococci have been associated both with unusually severe infections and with acute rheumatic fever. Previously, the authors described an acapsular mutant, TX4, derived from a mucoid M-type 18 strain of a group A streptococcus by transposon mutagenesis (M. R. Wessels, et al., 1991). The authors now report studies further characterizing strain TX4 as well as an additional acapsular mutant, TX72. Strain TX4 was found to contain a 9.5-kb deletion of chromosomal DNA adjacent to the site of transposon Tn916 insertion. Cloned chromosomal DNA from TX4 flanking the transposon insertion site was used as a probe to demonstrate the presence of homologous regions in 11 of 11 wild-type group A streptococcal strains of various M protein types. A second acapsular mutant, TX72, had a single transposon insertion and had no apparent deletion of chromosomal DNA. The Tn916 insertion in TX72 was mapped to the hasA locus (encoding hyaluronate synthase), which lies within the chromosomal region deleted in TX4. Strain TX72 was avirulent in mice and sensitive to phagocytic killing in vitro. Transduction of either the insertion-deletion mutation from TX4 or the simple insertion mutation from TX72 to a type 24 group A streptococcus strain also resulted in loss of capsule expression, demonstrating that a homologous region of the chromosome controls capsule expression in another serotype of Group A streptococci. The authors conclude that the hyaluronic acid capsule plays an important role in virulence and that a region of the chromosome essential for capsular polysaccharide expression is conserved among diverse group A streptococcal strains.

L10 ANSWER 60 OF 62 CA COPYRIGHT 2003 ACS on STN
AN 119:134259 CA
TI Hyaluronate synthase: Cloning and sequencing of the gene from *Streptococcus* sp
AU Lansing, Manfred; Lellig, Sabine; Mausolf, Andreas; Martini, Irene; Crescenzi, Fabiana; O'Regan, Michael; Prehm, Peter
CS Inst. Physiol. Chem. Pathobiocchem., Muenster, D-4400, Germany
SO Biochemical Journal (1993), 289(1), 179-84 CODEN: BIJOAK; ISSN: 0306-3275
DT Journal LA English
AB The complete nucleotide sequence of the gene for hyaluronate synthase from *Streptococcus* sp. and its flanking regions is presented. The gene locus was designated has. Southern-blotting results suggested that the gene was conserved in hyaluronate-producing streptococci. A putative translation-initiation codon was identified and the open reading frame consists of 1566 bp, specifying a protein of 56 kDa. Sequences resembling the promoter and ribosome-binding site of Gram-positive organisms are found upstream of the synthase. The predicted amino acid sequence has some similarity to bacterial peptide-binding proteins.

L10 ANSWER 61 OF 62 CA COPYRIGHT 2003 ACS on STN
AN 119:2187 CA
TI Molecular characterization of hasB from an operon required for hyaluronic acid synthesis in group A streptococci. Demonstration of UDP-glucose dehydrogenase activity
AU Dougherty, Brian A.; van de Rijn, Ivo
CS Med. Cent., Wake Forest Univ., Winston-Salem, NC, 27157, USA
SO Journal of Biological Chemistry (1993), 268(10), 7118-24 CODEN: JBCHA3; ISSN: 0021-9258 DT Journal LA English

L10 ANSWER 62 OF 62 CA COPYRIGHT 2003 ACS on STN
AN 115:2509 CA
TI Cloning of DNA encoding hyaluronate synthase
IN Weigel, Paul H.; Papaconstantinou, John
PA University of Texas System, USA
SO PCT Int. Appl., 60 pp. CODEN: PIXXD2
DT Patent LA English
FAN.CNT 1 PATENT NO. KIND DATE APPLICATION NO. DATE -----
PI WO 9103559 A1 19910321 WO 1990-US4878 19900828 W: AT, AU, BB, BG, BR, CA, CH, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MC, MG, MW, NL, NO, RO, SD, SE, SU RW: AT, BE, BF, BJ, CF, CG, CH, CM, DE, DK, ES, FR, GA, GB, IT, LU, ML, MR, NL, SE, SN, TD, TG US 5015577 A
19910514 US 1989-401316 19890829 AU 9063429 A1 19910408 AU
1990-63429 19900828 US 37336 E 20010821 US 1999-281107
19990329
PRAI US 1989-401316 A 19890829 WO 1990-US4878 A 19900828

- L10 ANSWER 7 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Changed lamellipodial extension, adhesion plaques and migration in epidermal keratinocytes containing constitutively expressed sense and antisense hyaluronan synthase 2 (Has2) genes PY 2002
- L10 ANSWER 8 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Functional characteristics and catalytic mechanisms of the bacterial hyaluronan synthases PY 2002
- L10 ANSWER 9 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Mammalian hyaluronan synthases PY 2002
- L10 ANSWER 10 OF 62 CA COPYRIGHT 2003 ACS on STN
TI cDNA and protein sequences of rabbit hyaluronate synthetases and their uses for diagnosis and treatment of obesity PY 2003
- L10 ANSWER 11 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Synthesis and surface expression of hyaluronan by dendritic cells and its potential role in antigen presentation PY 2002
- L10 ANSWER 12 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronate synthase encoded by hasA gene of *Streptococcus pyogenes* and its use in synthesis of hyaluronic acid PY 2002 2003 2003 2003
- L10 ANSWER 13 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning and characterization of chondroitin polymerase from *Escherichia coli* strain K4 PY 2002
- L10 ANSWER 14 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Polymer grafting with polysaccharide synthases for coating biomaterial surfaces PY 2002 2001 2002 2003 2003 2003
- L10 ANSWER 15 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase 3 regulates hyaluronan synthesis in cultured human keratinocytes PY 2002
- L10 ANSWER 16 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan production increases the malignant properties of mesothelioma cells PY 2001
- L10 ANSWER 17 OF 62 CA COPYRIGHT 2003 ACS on STN
TI UDP-glucose pyrophosphorylase: up-regulation in hypertrophic cartilage and role in hyaluronan synthesis PY 2001
- L10 ANSWER 18 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning of rabbit hyaluronic acid synthases and their expression patterns in synovial membrane and articular cartilage PY 2001
- L10 ANSWER 19 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Regulation of hyaluronan synthase gene expression in human periodontal ligament cells by tumor necrosis factor- α , interleukin-1 β , and interferon- γ . PY 2001
- L10 ANSWER 20 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan biosynthesis: A multifaceted process PY 2001
- L10 ANSWER 21 OF 62 CA COPYRIGHT 2003 ACS on STN
TI *Pasteurella multocida* chondroitin synthase gene, recombinant expression, and use PY 2001 2002 2002 2001 2003
- L10 ANSWER 22 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase 3 overexpression promotes the growth of TSU prostate cancer cells PY 2001
- L10 ANSWER 23 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Up-regulation of putative hyaluronan synthase mRNA by basic fibroblast growth factor and insulin-like growth factor-1 in human skin fibroblasts PY 2001
- L10 ANSWER 24 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Identification and disruption of two discrete loci encoding hyaluronic acid capsule biosynthesis genes hasA, hasB, and hasC in *Streptococcus uberis* PY 2001
- L10 ANSWER 25 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Differential regulation and expression of hyaluronan synthases in human articular chondrocytes, synovial cells and osteosarcoma cells PY 2001
- L10 ANSWER 26 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Topological organization of the hyaluronan synthase from *Streptococcus pyogenes* PY 2001
- L10 ANSWER 27 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Identification and molecular cloning of a chondroitin synthase from *Pasteurella multocida* type F PY 2000
- L10 ANSWER 28 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Glucocorticoids induce a near-total suppression of hyaluronan synthase mRNA in dermal fibroblasts and in osteoblasts: a molecular mechanism contributing to organ atrophy PY 2000
- L10 ANSWER 29 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Expression cloning and characterization of hyaluronan synthase PY 2000
- L10 ANSWER 30 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Synthesis of hyaluronan of distinctly different chain length is regulated by differential expression of Xhas1 and 2 during early development of *Xenopus laevis* PY 2000
- L10 ANSWER 31 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Increased synthesis of Hyaluronate enhances motility of human melanoma cells PY 1999
- L10 ANSWER 32 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Expression of hyaluronan synthase messenger ribonucleic acids and their induction by interleukin-1 β . in human orbital fibroblasts: potential insight into the molecular pathogenesis of thyroid-associated ophthalmopathy PY 1999
- L10 ANSWER 33 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Expression of Recombinant Hyaluronan Synthase (HAS) Isoforms in CHO Cells Reduces Cell Migration and Cell Surface CD44 PY 1999
- L10 ANSWER 34 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthases. Fascinating glycosyltransferases from vertebrates, bacterial pathogens, and algal viruses PY 1999
- L10 ANSWER 35 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Three isoforms of mammalian hyaluronan synthases have distinct enzymatic properties PY 1999
- L10 ANSWER 36 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Relationship between hyaluronan production and metastatic potential of mouse mammary carcinoma cells PY 1999
- L10 ANSWER 37 OF 62 CA COPYRIGHT 2003 ACS on STN
TI A hyaluronan synthase gene of *Streptococcus equisimilis* and use of the enzyme in manufacture of hyaluronans PY 1999 1999 1999 1999 2003 2000 2001 2001 2002 2003 2003
- L10 ANSWER 38 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Properties of the hyaluronan synthase from group A *Streptococcus pyogenes* PY 1999
- L10 ANSWER 39 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase. Functional analysis of hyaluronan by gene modification PY 1998
- L10 ANSWER 40 OF 62 CA COPYRIGHT 2003 ACS on STN
TI An ectoprotein kinase of group C streptococci binds hyaluronan and regulates capsule formation PY 1998
- L10 ANSWER 41 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase. A scenario for remodeling the extracellular matrix PY 1998
- L10 ANSWER 42 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase: new directions for hyaluronan research PY 1998
- L10 ANSWER 43 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Identification and molecular cloning of a unique hyaluronan synthase from *Pasteurella multocida* PY 1998
- L10 ANSWER 44 OF 62 CA COPYRIGHT 2003 ACS on STN
TI The gene structure and promoter sequence of mouse hyaluronan synthase 1 (mHAS1) PY 1998
- L10 ANSWER 45 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Molecular cloning, expression, and characterization of the authentic hyaluronan synthase from group C *Streptococcus equisimilis* PY 1997
- L10 ANSWER 46 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Hyaluronan synthase of chlorella virus PBCV-1 PY 1997
- L10 ANSWER 47 OF 62 CA COPYRIGHT 2003 ACS on STN
TI Gene sequences encoding murine and human hyaluronan synthases PY 1998 1998 2002 2003 1998